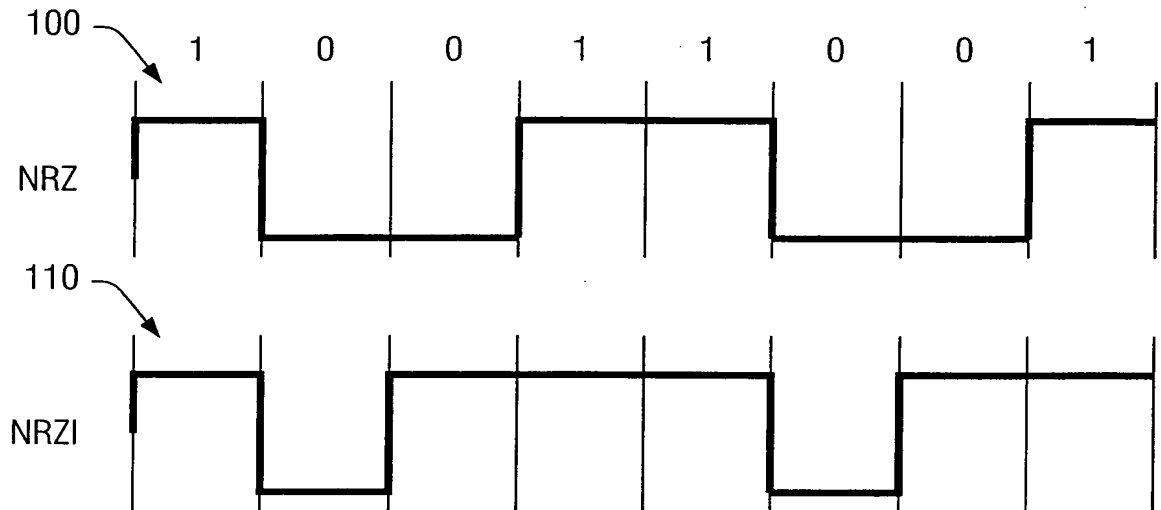
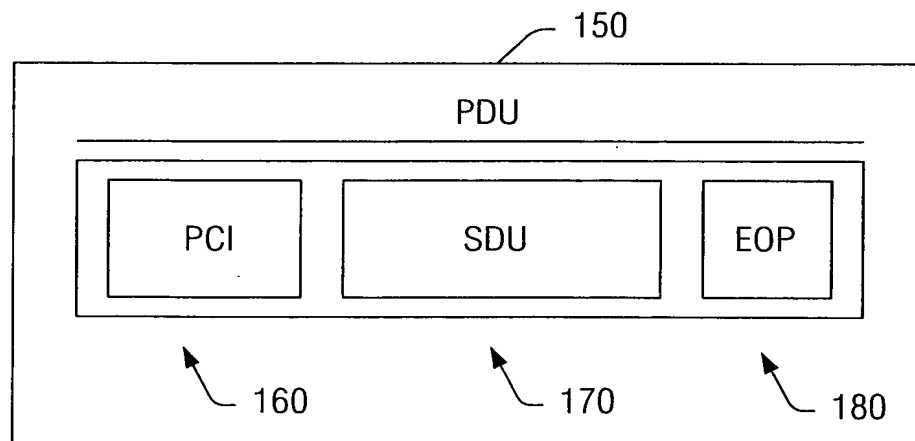




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*FIG. 1*  
*PRIOR ART*



*FIG. 2*  
*PRIOR ART*

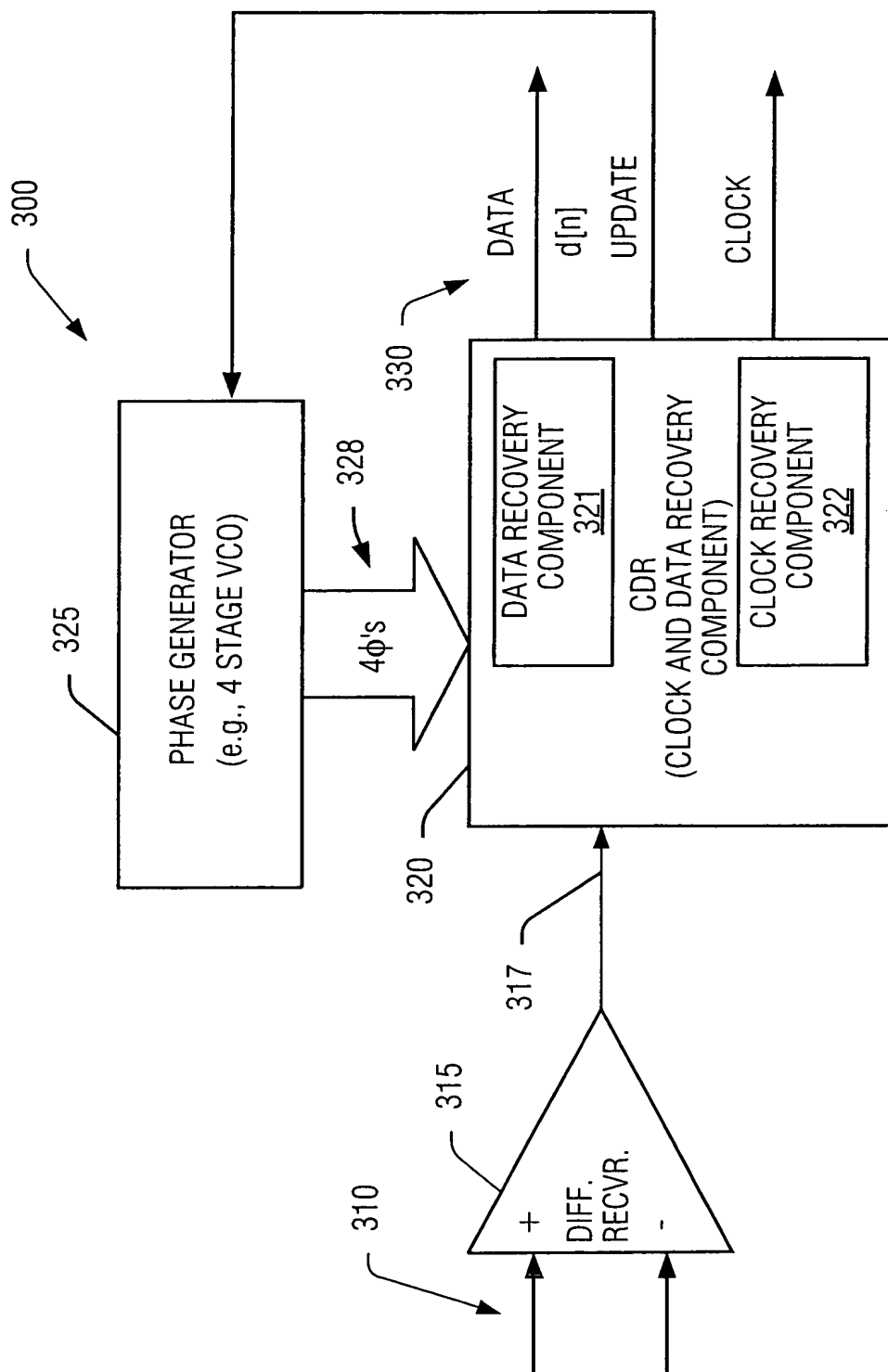


FIG. 3A

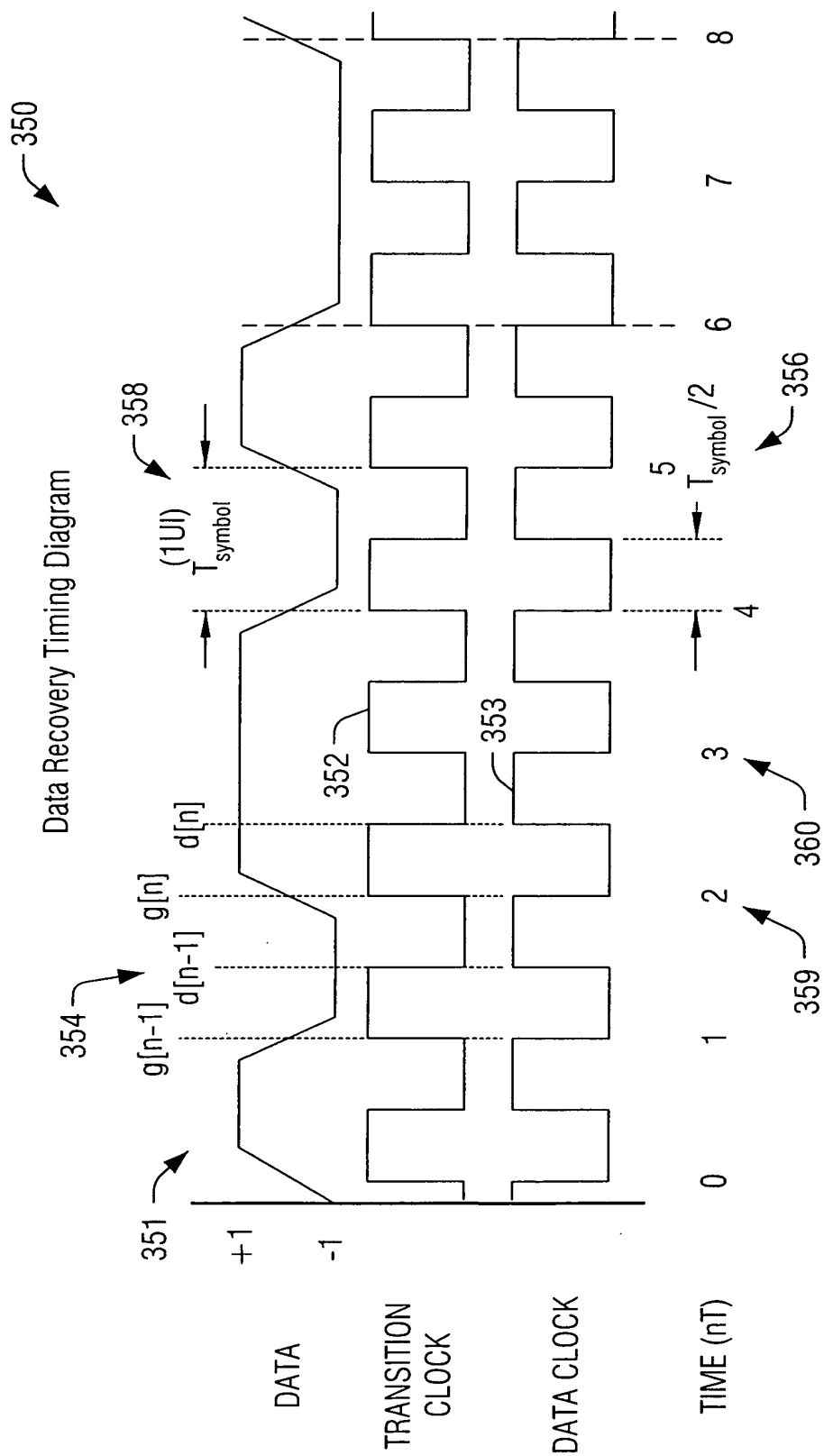


FIG. 3B

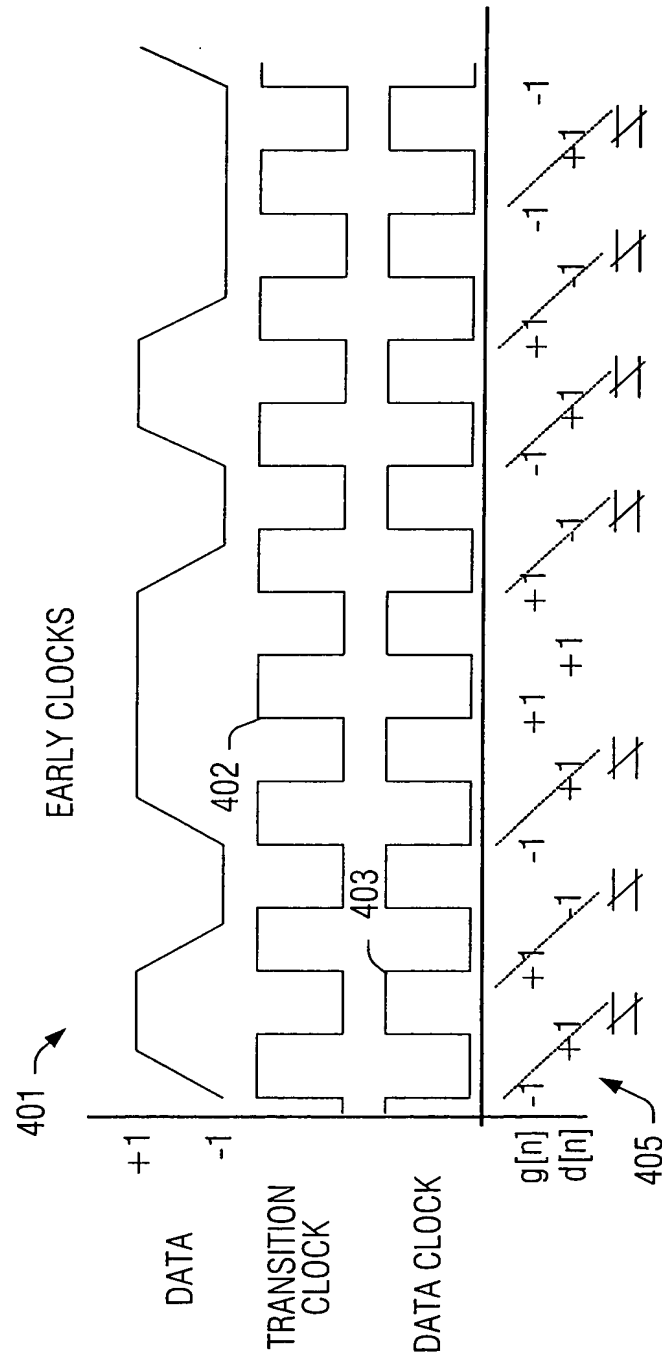


FIG. 4

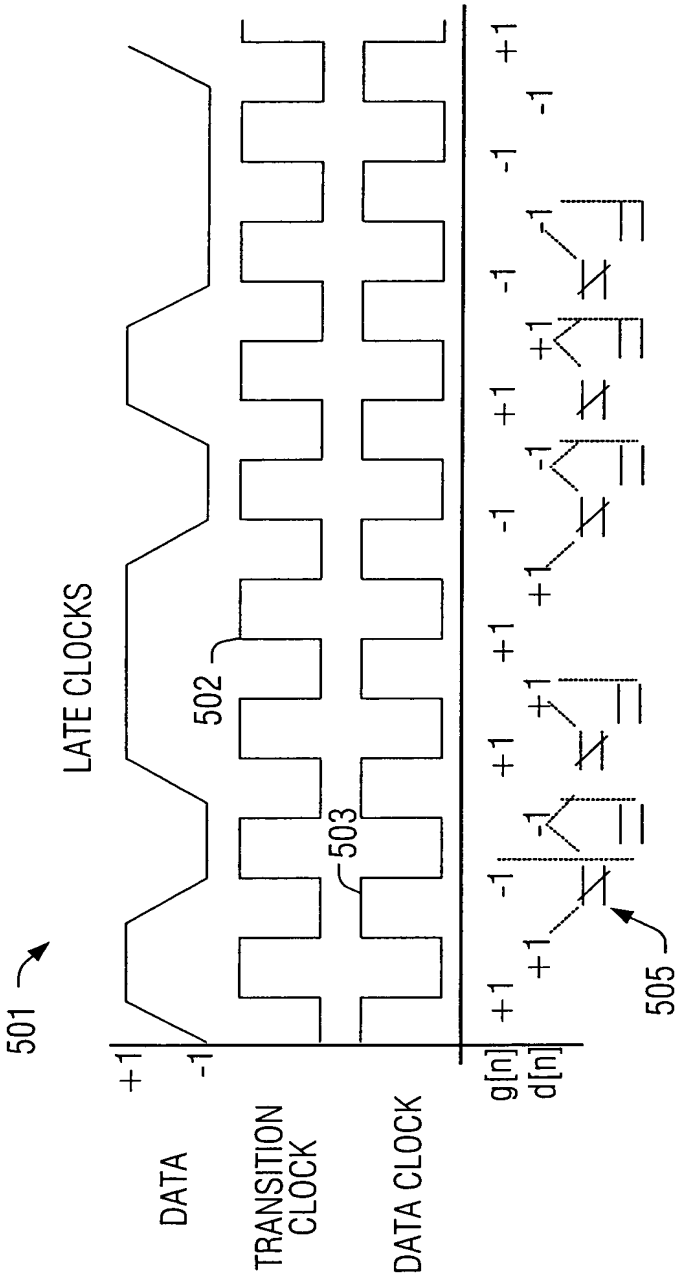


FIG. 5

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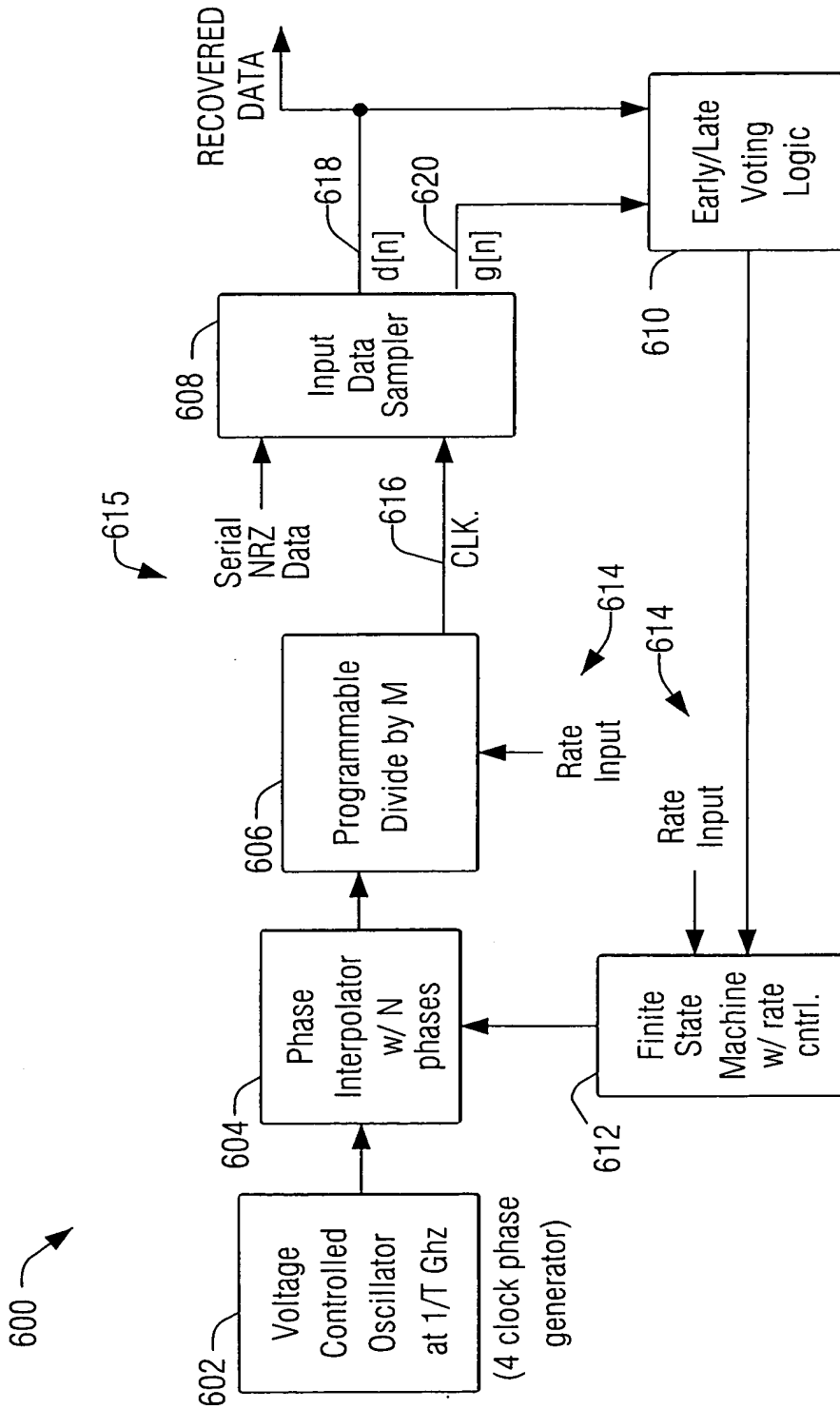


FIG. 6A

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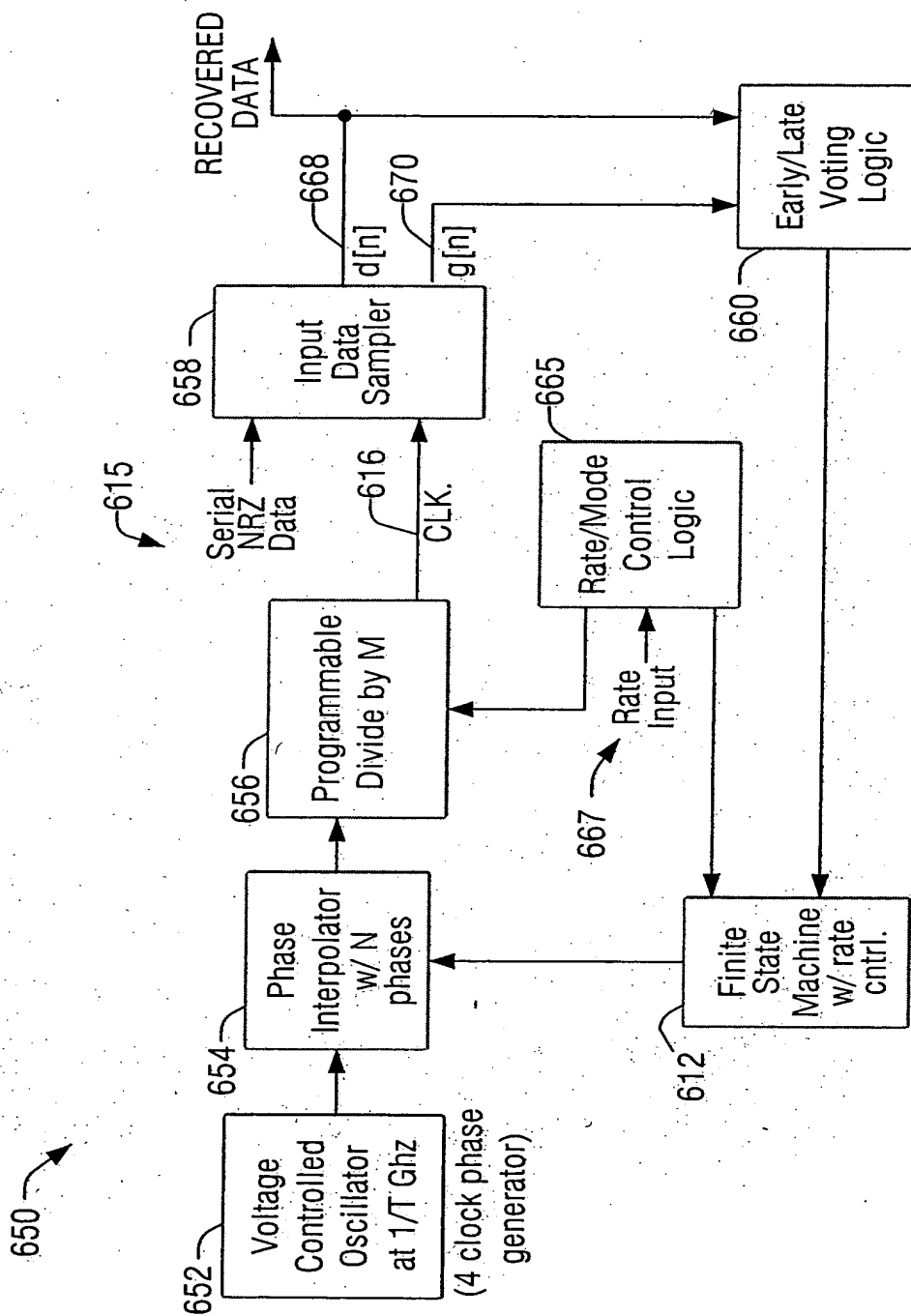


FIG. 6B

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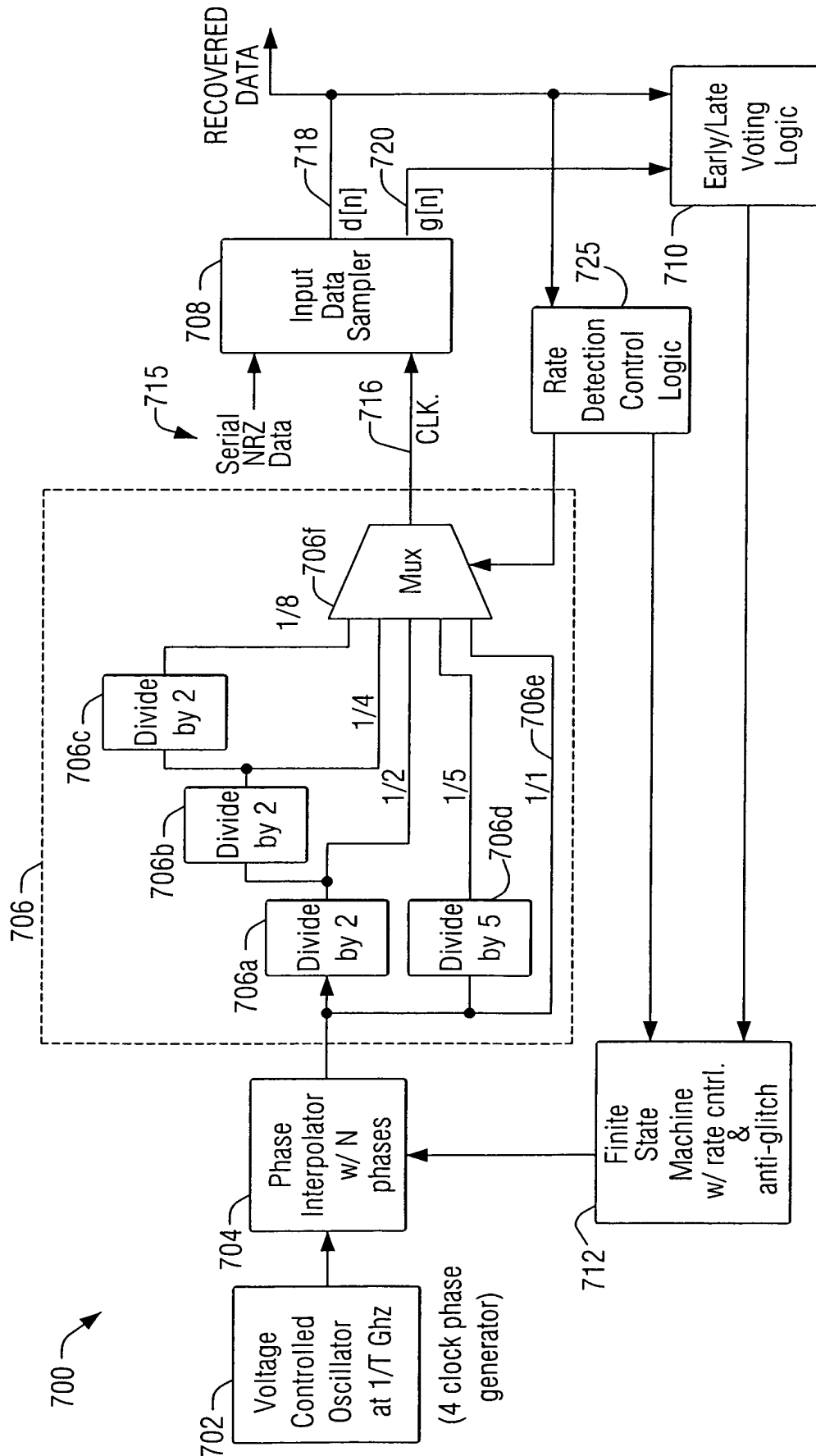


FIG. 7



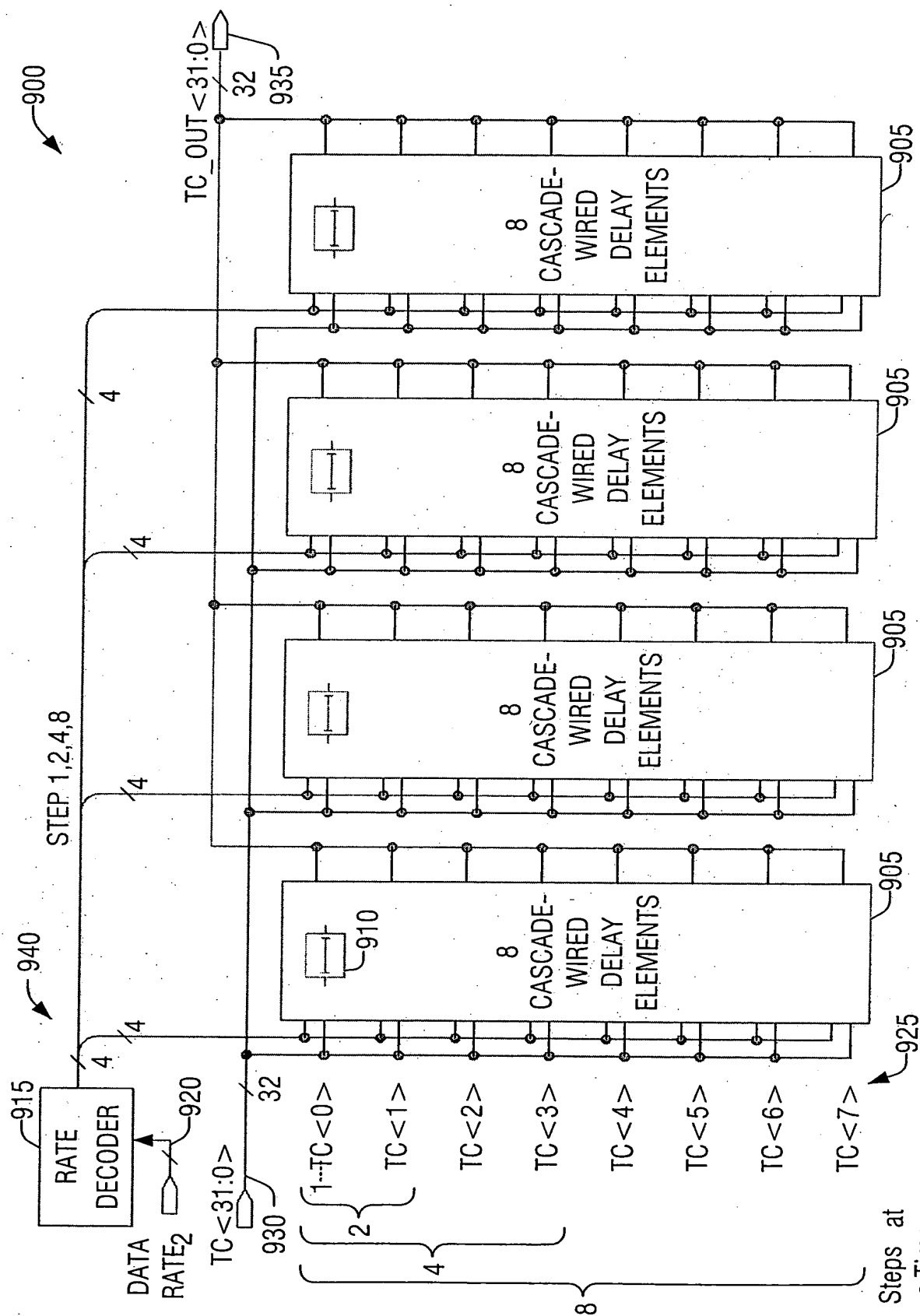
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800

			Typical Implementation			Proposed Implementation		
Data Rate (Gbps)	Unit interval (ps)	Steps/ UI	Latency (bits)	Steps/ Update	Tracking ability (ppm)	Latency (bits)	Steps/ Update	Tracking ability (ppm)
12.5	80	64	32	1	488	32	1	488
6.25	160	128	32	1	244	32	2	488
3.125	320	256	32	1	122	32	4	488
1.5625	640	512	32	1	61	32	8	488
1.25	800	640	32	1	48.8	24	8	521

FIG.8

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**FIG. 9A**

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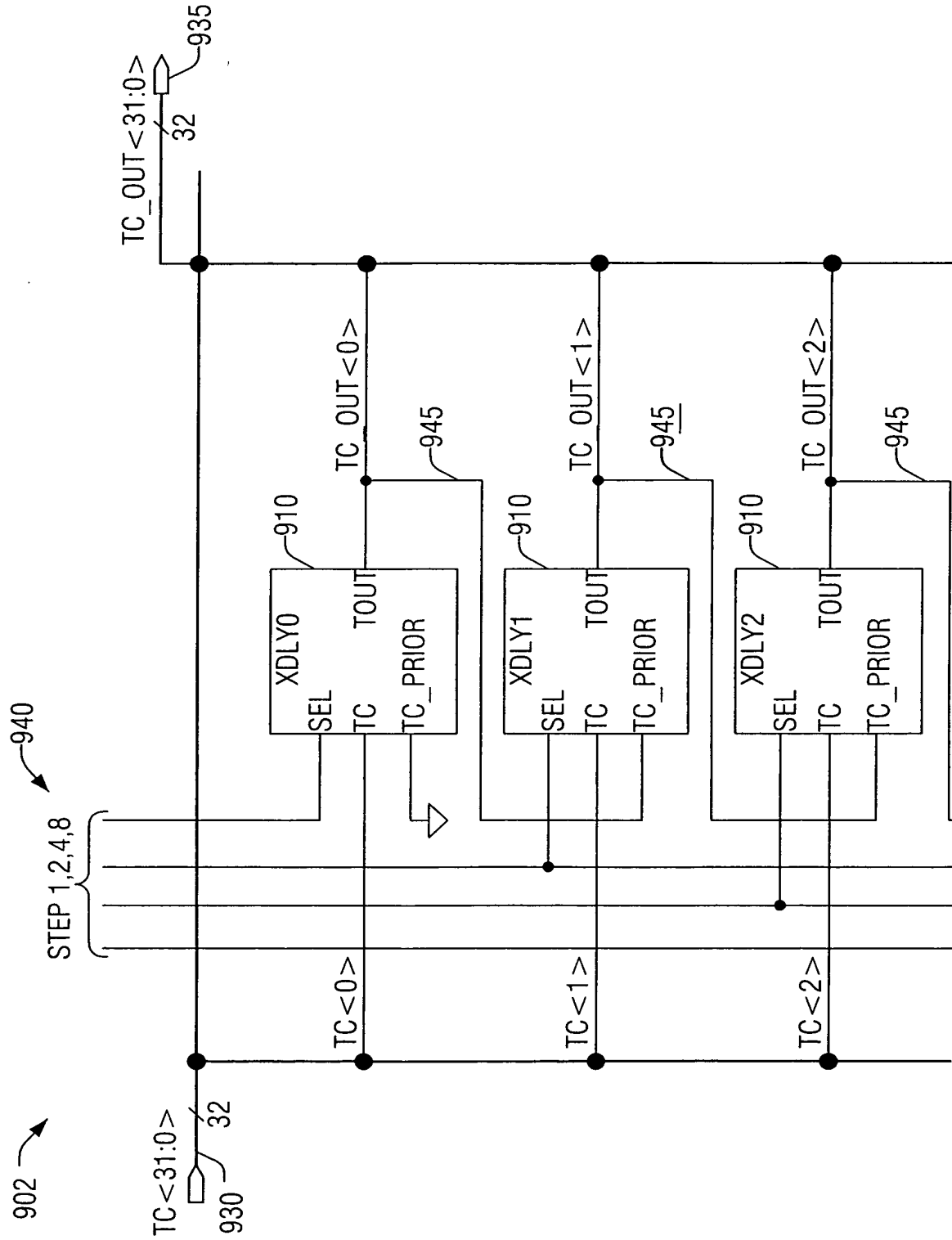


FIG. 9B

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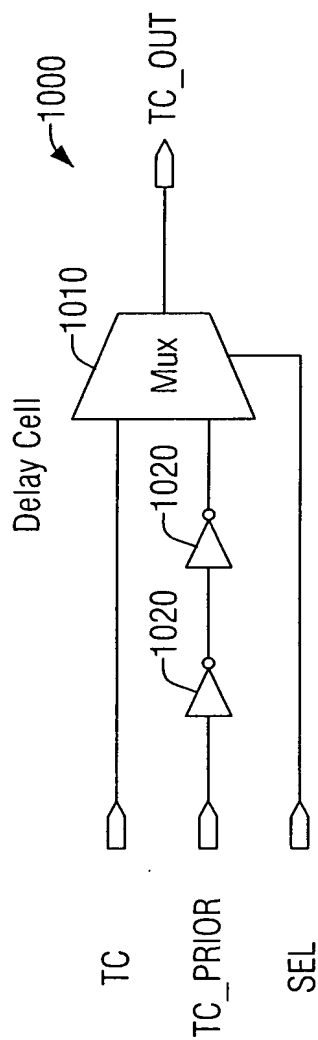


FIG. 10

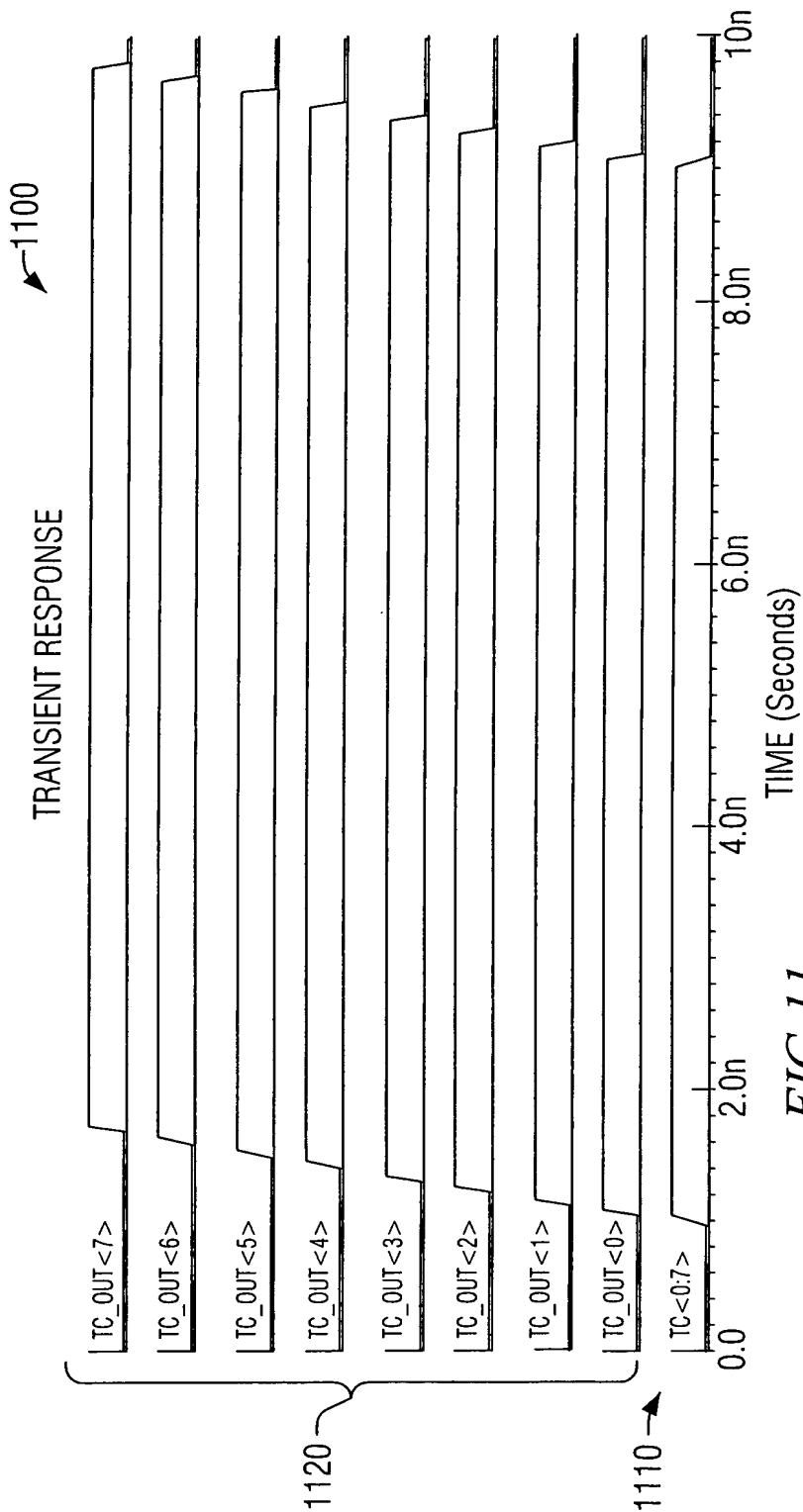
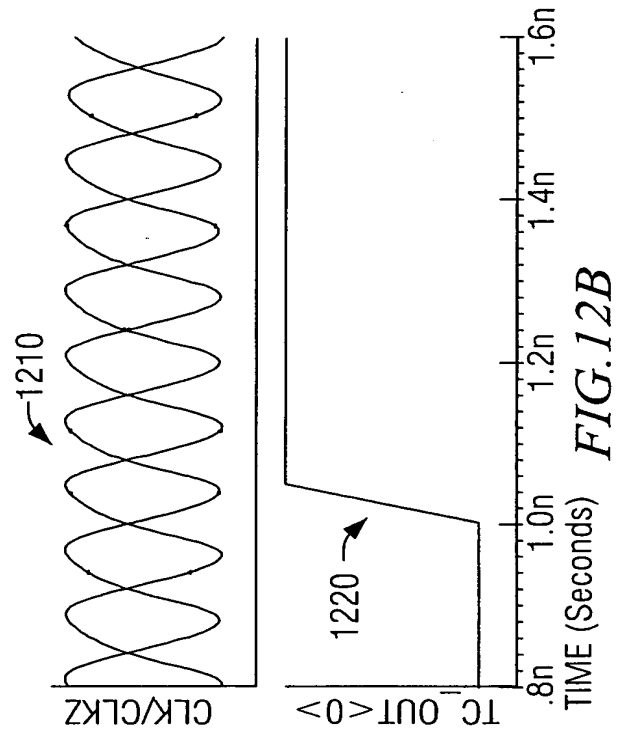
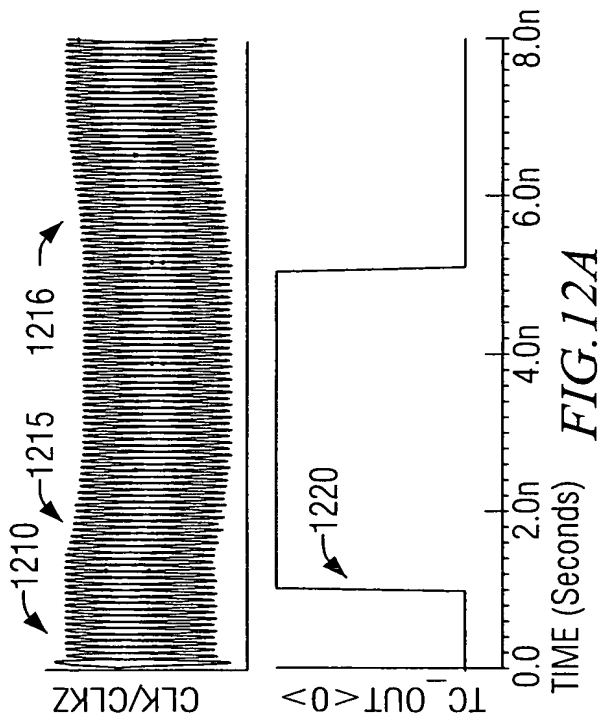
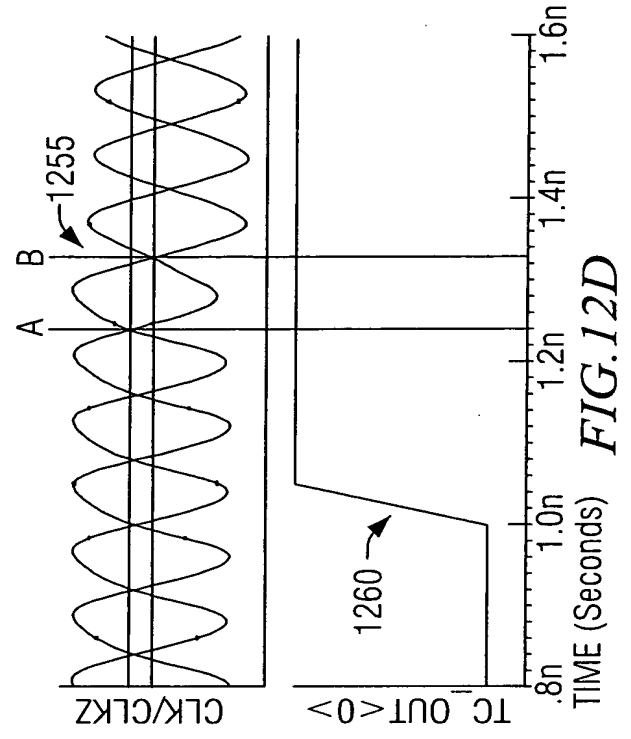
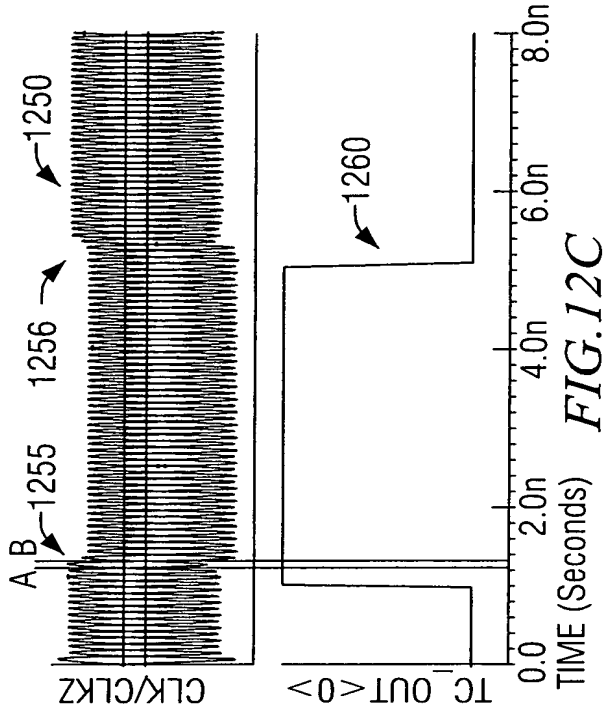


FIG. 11



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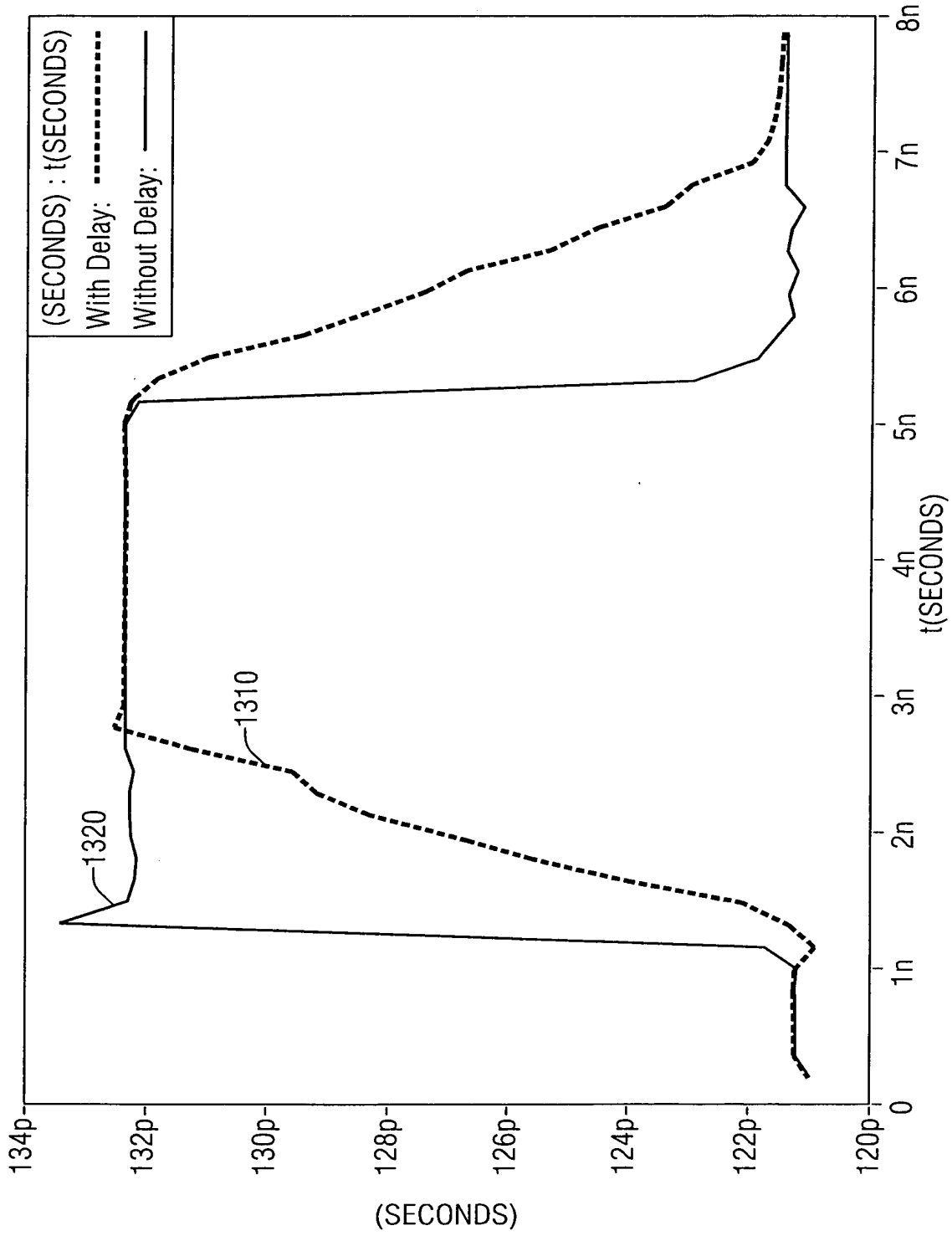


FIG. 13

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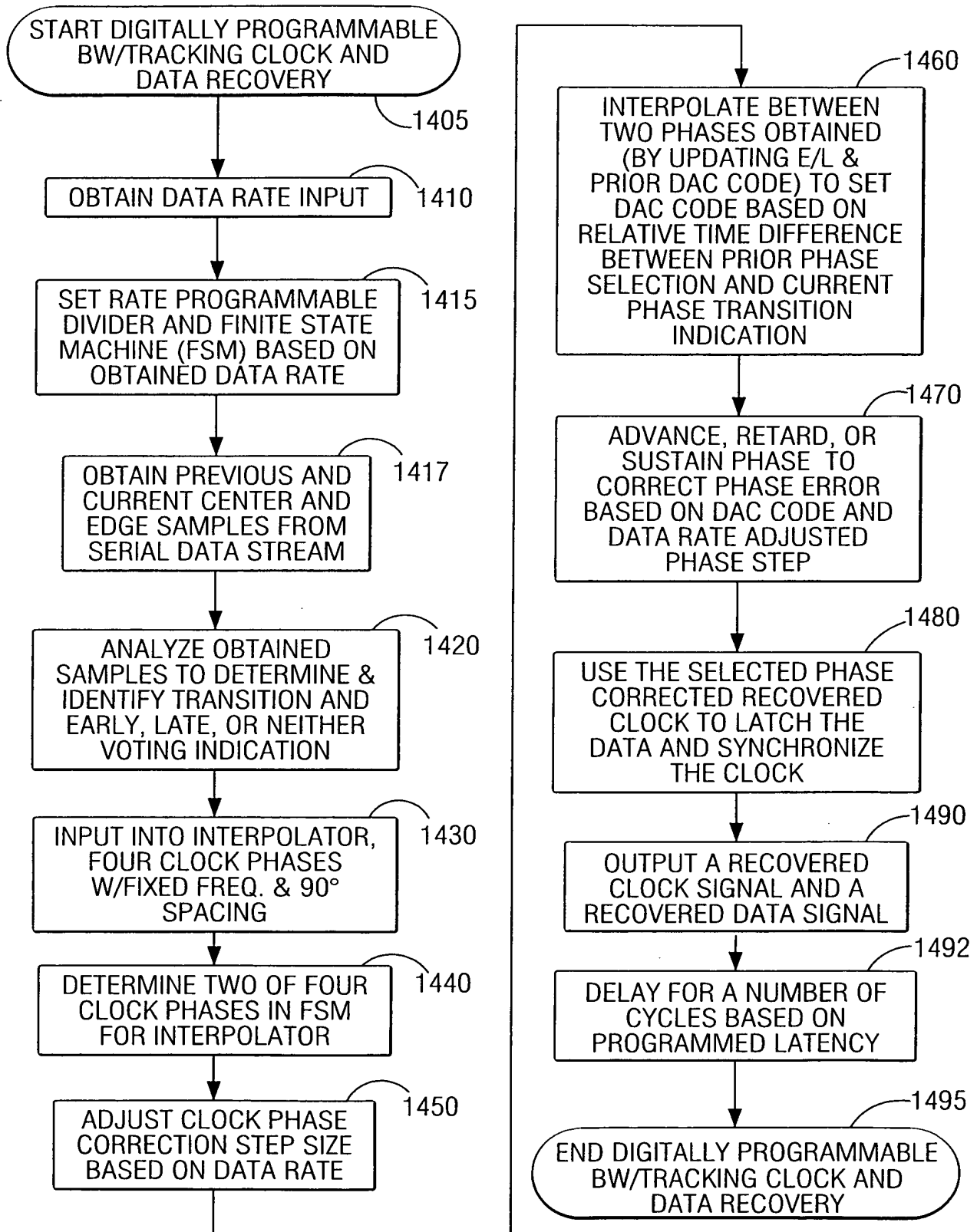


FIG. 14

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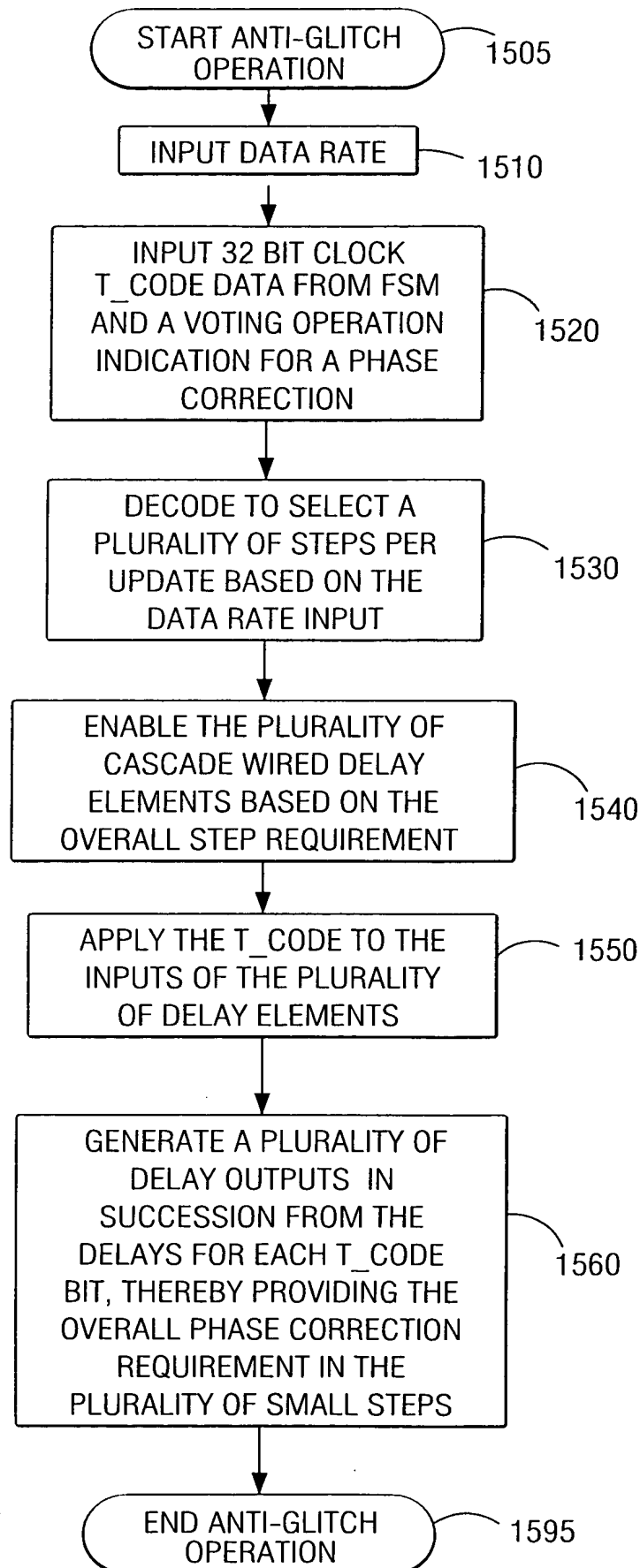


FIG. 15



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